

Amendment and Response Under 37 C.F.R. 1.116

Applicant: Ronald W. Hall et al.

Serial No.: 10/717,230

Filed: Nov. 19, 2003

Docket No.: 10971833-3

Title: METHOD AND APPARATUS FOR PROVIDING INK TO AN INK JET PRINTING SYSTEM

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of the claims:

1-18. (Cancelled)

19. (Currently Amended) A method of providing ink to a printing system, the printing system including a docking bay having therein a first fluid inlet for receiving pressurized ink, the method comprising:

inserting a pump module into the docking bay of the printing system to couple the pump module to the first fluid inlet within the docking bay, the pump module including keying features, a second fluid inlet for receiving ink, an air purge apparatus, and a pressurizing apparatus for increasing the fluid pressure of the ink before providing the ink to the first fluid inlet;

coupling an ink container to the second fluid inlet, the ink container including keying features corresponding to the pump module keying features, the coupling including engaging the corresponding keying features of the ink container with the pump module keying features to prevent an incompatible ink container from being coupled to the second fluid inlet; and

removing air trapped within the pump module using the air purge apparatus.

20. (Previously Presented) The method of claim 19, wherein the printing system includes a pump actuator and wherein the method further comprises:

actuating the pump actuator to move linearly to engage the pressurizing apparatus to provide pressurized ink at the first fluid inlet.

21. (Previously Presented) The method of claim 20, wherein the pressurizing apparatus includes a variable volume chamber having a chamber volume and wherein the step of actuating the pump actuator includes:

increasing the chamber volume to draw ink into the variable volume chamber from the ink container; and

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decreasing the chamber volume to expel pressurized ink from the variable volume chamber through the first fluid inlet of the pump module.

22. (Previously Presented) The method of claim 19 wherein the air purge apparatus includes a septum, and wherein the step of removing air trapped within the pump module includes:

inserting a hollow member through the septum; and
applying vacuum pressure to the hollow member to draw trapped air from the air purge apparatus.

23. (Previously Presented) The method of claim 19, wherein prior to the step of coupling the ink container to the second fluid inlet, the method includes:

removing a protective cap on the ink container to expose a fill port for filling the ink container with an initial quantity of ink;
removing a plug from the fill port;
refilling the ink container with a quantity of refill ink; and
inserting a plug into the fill port to prevent refill ink leakage from the ink container.

24. (Canceled)

25. (Currently Amended) The method of claim 19, wherein the pump module includes further keying features and the docking bay includes corresponding keying features, and wherein the step of inserting the pump module into the docking bay includes:

engaging the further keying features of the pump module with the corresponding keying features of the docking bay to ensure the pump module is properly oriented upon insertion of the pump module into the docking bay.

26- 34. (Canceled)